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NOTES ON THE WEST AMERICAN NEPHROPIDEAN LOBSTER, *NEPHROPSIS OCCIDENTALIS* FAXON

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This is the second in a series of planned reports on nephropid lobsters, with present emphasis on American species. In the first paper a striking new genus and species, *Nephropides caribaea*, was described from the Caribbean Sea (Manning, 1969). This report includes observations on the only West American lobster, *Nephropsis occidentalis* Faxon.

There has been a recent renewal of interest in the biology and systematics of marine nephropidean lobsters, particularly by those concerned with Indo-West Pacific species (Berry, 1969; Bruce, 1965, 1966a, 1966b, 1966c; Holthuis, 1964; and Yaldwyn, 1954). As pointed out by several students of the group, one aspect of the present interest is the availability in commercial quantities of some nephropids, especially species of the genus *Nephrops*.

A survey of American nephropids in the collections of the Division of Crustacea, National Museum of Natural History, Smithsonian Institution (USNM), revealed the presence of several lots of *N. occidentalis* from unrecorded localities. As far as I can determine, there are only three records of this species in the literature, the original description by Faxon (1893), which was supplemented by Faxon in 1895, and the extension of range from the west coast of Mexico to Chile by Bahamonde (1959). I take this opportunity to illustrate the pleopod and thoracic sternal region of a male. Preliminary studies indicate that these may provide important characters in the nephropids.

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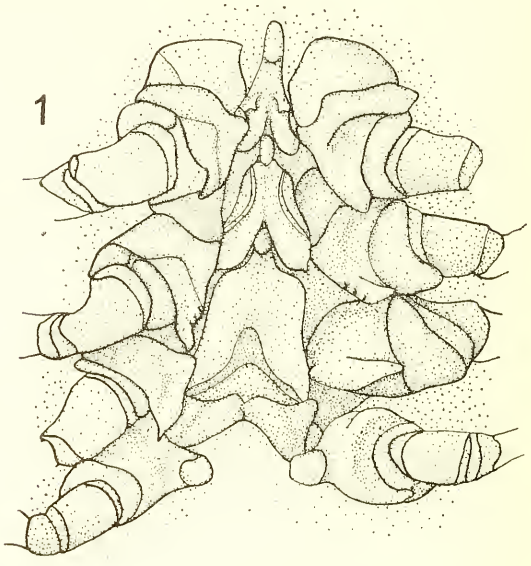
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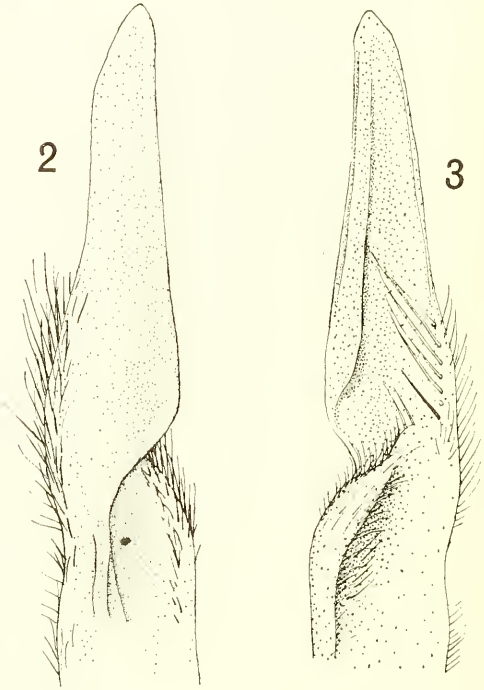
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Nephropsis occidentalis Faxon, 1893
(Figures 1–3)

Nephropsis occidentalis Faxon, 1893, p. 195; 1895, p. 127, pl. D, figs. 1 [color], 1a, 1b.—De Man, 1916, p. 97 [listed, table].—Bouvier, 1917, p. 20 [key].—Balss, 1927, p. 24 [table].—Bahamonde, 1959, p. 224, figs. 1–4.

Material: 1 ♂, 103 mm; off west coast of Baja California, Mexico; 27°38′45″N, 115°17′40″W; 525 fathoms; green mud, Globigerina; "Albatross" Station D 5688; 23 April 1911.—1 ♀, 101 mm; between Ballenas Bay and Santa Maria Bay, west coast of Baja California, Mexico; 25°31′15″N, 113°29′30″W; 645 fathoms; green mud, fine sand, Globigerina; "Albatross" Station D 5676; 17 March 1911.—1 ♂, 108 mm; off Cape San Lucas, Baja California, Mexico; 22°56′45″N, 109°50′15″W; 630 fathoms; coarse sand, green mud, gravel; "Albatross" Station D 5683; 20 April 1911.—2 ♂, 101–132 mm; near Trés Marias Islands, Mexico; 21°15′N, 106°23′W; 676 fathoms; gray sand, broken specks; "Albatross" Station 3424; 18 April 1891; syntypes; USNM 21082.—11 ♂, 51–113 mm; 16 ♀, 68–127 mm; off Acapulco, Mexico; 16°33′N, 99°52′30″W; 660 fathoms; brown sand, broken specks; "Albatross" Station 3418; 11 April 1891; syntypes; USNM 21081.—1 ♂, 81 mm; off Valparaiso, Chile; ca. 33°S; more than 300 fathoms; John Manning, collector.

Remarks: Relatively little can be added to Faxon's brief but excellent original description. The smaller specimens are less pubescent than the larger ones, and, in smaller specimens, the tubercles on the carapace, particularly those extending posteriorly from the rostrum, are comparatively sharper. The single Chilean specimen shows no marked differences when compared with Mexican specimens of the same size; however, the Chilean specimen apparently lacks a middorsal patch of small tubercles near the posterior border of the carapace which is visible in all of the Mexican specimens. Faxon (1895) commented on the inflated carapace in this species. The inflation of the branchial regions is particularly well marked in specimens longer than 100 mm.

Nephropsis occidentalis resembles five other species in the genus in having a middorsal carina on the second to fifth abdominal somites. It further resembles *N. aculeata* Smith, *N. carpenteri* Wood-Mason, and *N. rosea* Bate in having but one pair of lateral rostral spines. Of the other species with the middorsal carina on the abdomen, *N. ensirostris* Alcock lacks lateral rostral spines and *N. atlantica* Norman has two pairs.

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FIGS. 1–3. *Nephropsis occidentalis* Faxon, male, 108 mm, "Albatross" Station D 5683: 1, ventral surface of thorax; 2, male pleopod in lateral view; 3, male pleopod in mesial view.

Nephropsis occidentalis differs from all species now known in the genus in having an erect dorsal spine on the telson near the anterior margin.

Of the American species of *Nephropsis*, *N. occidentalis* rather closely resembles *N. aculeata*; other than the dorsal spine on the telson and the projections at the bases of the walking legs discussed below, the two species are very similar. In *N. aculeata* the abdominal pleura are narrower and sharper, the chelae are more pubescent, and the body pubescence is not so well-developed.

Examination of the thoracic sternum of males of *N. occidentalis* revealed the presence of characters which may prove to be distinctive in members of the genus. The sternum of a male, 108 mm long, is shown in Figure 1. On the inner surface of the basal segment of the third pereiopod there is a spinous triangular projection which is recurved posteriorly. A similar, sharper projection at the base of the fourth leg is directed anteriorly. The process on the third pereiopod is directed ventrally, only slightly recurved, with smooth margins, in males 70 mm long. In males 90 mm long the apex is recurved posterolaterally, and at 108 to 113 mm the inner margin is tuberculate. The tubercles are comparatively much larger than those illustrated in the largest (132 mm) male examined. In *N. aculeata* this process on the third leg is larger than in *N. occidentalis* and the apex is subdivided into three or four prominent, sharp, posteriorly directed spines. This character needs to be surveyed throughout the genus.

Although the male pleopod (Figures 2, 3) has not been used as a specific character in this group I have included the illustrations here for future reference.

Nephropsis occidentalis is now known from localities off Mexico between western Baja California and Acapulco, and from off Chile, where it was first recorded by Bahamonde (1959). It has not yet been taken in the Panamanian region, but its absence there may reflect collecting effort rather than actual occurrence of the species. It apparently occurs on soft bottom in depths between 525 and 676 fathoms.

In his key to the species of *Nephropsis*, Bouvier (1917, p. 20) indicated that *N. occidentalis* was known from the Galapagos Islands and Iles Marion; these must be *lapsi* for Faxon's original records, both of which were from off Mexico.

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